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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,629	07/31/2000	Suhail S. Saquib	8445/RMD	3888

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POLAROID CORPORATION  
PATENT DEPARTMENT  
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WALTHAM, MA 02451

EXAMINER

BHATNAGAR, ANAND P

ART UNIT PAPER NUMBER

2623

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/628,629

Applicant(s)

SAQUIB, SUHAIL S.

Examiner

Anand Bhatnagar

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01/18/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-19, 30-34 and 45-49 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 12, 20-22, 24-26, 35-37, and 39-41 is/are rejected.
- 7) ☒ Claim(s) 4, 8-11, 23, 27-29, 38, and 42-44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

1. In view of the appeal brief filed on Jan. 18, 2005, PROSECUTION IS  
HEREBY REOPENED. New Grounds of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of  
the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a  
reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be  
accompanied by a supplemental appeal brief, but no new amendments, affidavits  
(37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR  
1.193(b)(2).

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for  
all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

A.) Claims 1, 20, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaumer (U.S. patent 6,337,645) and Wischermann (U.S. patent 5,148,278).

Regarding claims 1, 20, and 35: Pflaumer discloses a method for filtering digital input signal ( produce a digital output signal, the method comprising steps of:

(A) reducing a resolution of the digital input signal to produce a reduced resolution signal (Pflaumer; col. 3 lines 47-49 and col. 4 lines 22-24, wherein the digital signal is decimated which is read as the resolution being reduced/down sampling the signal.);

(B) performing filtering of the reduced resolution signal to produce a filtered reduced resolution signal (Pflaumer; col. 3 lines 50-67 and col. 4 lines 1-28, wherein after decimation an alias filter that filters the decimated signal, i.e. read as reducing the resolution, prior to the interpolation step); and

performing interpolation on the filtered reduced resolution signal produce the digital output signal (Pflaumer; fig. 8 element 150, col. 3 lines 53-57 and col. 4 lines 20-36, the interpolation is read as increasing the resolution/upsampling the signal).

Pflaumer discloses a system wherein to prevent aliasing in a digital signal by first decimating the signal, then applying a aliasing filter to the decimated signal, then finally applying a interpolation process to the filtered decimated signal (Pflaumer; col. 4 lines 20-36). Pflaumer further teaches wherein the alias

filter can be selected/designed accordingly (Pflaumer; fig. 9 element 130 and col. 9 lines 32-43). Pflaumer does not teach to have the alias filter to be a median filter. Wischermann teaches to apply a median filter to a signal to reduce aliasing (Wischermann; col. 5 lines 10-18). It would have been obvious to one skilled in the art to combine the teaching of Wischermann to that of Pflaumer because they are analogous in removing aliasing from a signal. One in the art would have been motivated to incorporate the teaching of Wischermann to that of Pflaumer to remove aliasing artifacts from video/image signals (Wischermann; col. 5 lines 15-18).

B.) Claims 2, 3, 5-7, 12, 21, 22, 24-26, 36, 37, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaumer (U.S. patent 6,337,645), as modified by Wischermann (U.S. patent 5,148,278), and further in view of Robinson et al. (U.S. patent 5,623,317).

Regarding claims 2, 21, and 36: The method of claim wherein the step (A) comprises steps of:

(A)(1) performing linear filtering on the digital input signal produce filtered digital input signal; and

(A)(2) down-sampling the filtered digital input signal to produce the reduced resolution signal (Pflaumer; col. 3 lines 47-49 and col. 4 lines 22-24, wherein the digital signal is decimated which is read as the resolution being reduced/down sampling the signal.).

Pflaumer, as modified by Wischermann teaches a system to reduce/eliminate aliasing artifacts from a digital signal. Pflaumer, as modified by Wischermann does not teach to apply a low pass filter prior to decimation and/or after the process of interpolation. Robinson et al. teaches to apply a low pass filter after the interpolation step and before the decimation step (Robinson et al.; fig. 1 elements 10, 13, and 14, col. 3 lines 52-56 and col. 4 lines 35-36). It would have been obvious to one skilled in the art to combine the teaching of Robinson et al. to that of Pflaumer, as modified by Wischermann, because they are analogous in removing aliasing in a signal. One in the art would have been motivated to incorporate the teaching, modified wherein a low pass filter is applied before the decimation step and/or after the interpolation step, Robinson et al. to the system of Pflaumer, as modified by Wischermann, in order to prefilter/postfilter any aliasing artifacts that are in the signal (Robinson et al.; col. 3 lines 52-55).

Regarding claims 3, 22, and 37: The method of claim wherein the step (A)(I) comprises a step of performing linear low-pass filtering on the digital input signal (Robinson et al.; fig. 1 elements 10, 13, and 14, col. 3 lines 52-56 and col. 4 lines 35-36).

Regarding claims 5, 24, and 39: The method of claim wherein the step comprises steps of:

(C)(1) up-sampling the filtered reduced resolution signal produce an up-sampled filtered signal (Pflaumer; fig. 8 element 150, col. 3 lines 53-57 and col. 4

lines 20-36, the interpolation is read as increasing the resolution/upsampling the signal); and

(C)(2) performing linear low-pass filtering on the up-sampled filtered signal to produce the digital output signal.

Pflaumer, as modified by Wischermann teaches a system to reduce/eliminate aliasing artifacts from a digital signal. Pflaumer, as modified by Wischermann does not teach to apply a low pass filter prior to decimation and/or after the process of interpolation. Robinson et al. teaches to apply a low pass filter after the interpolation step and before the decimation step (Robinson et al.; fig. 1 elements 10, 13, and 14, col. 3 lines 52-56 and col. 4 lines 35-36). It would have been obvious to one skilled in the art to combine the teaching of Robinson et al. to that of Pflaumer, as modified by Wischermann, because they are analogous in removing aliasing in a signal. One in the art would have been motivated to incorporate the teaching, modified wherein a low pass filter is applied before the decimation step and/or after the interpolation step, Robinson et al. to the system of Pflaumer, as modified by Wischermann, in order to prefilter/postfilter any aliasing artifacts that are in the signal (Robinson et al.; col. 3 lines 52-55).

Regarding claims 6, 25, and 40: The method of claim wherein the step (C)(2) comprises a step of performing low-pass filtering using a linear low-pass filter use bi-cubic interpolation to produce the digital output signal. This is a well known in the art. Examiner takes OFFICIAL NOTICE.

Regarding claims 7, 26, and 41: A method filtering a digital input signal produce a digital output signal, the method comprising steps of: This claim is rejected for the same reason as claims 1,2, and 5 combined.

Regarding claim 12: The method wherein the digital input signal comprises a two-dimensional signal. It is inherent that the digital signal of Pflaumer is a two dimensional signal.

#### ***Allowable Subject Matter***

3. Claims 13-19, 30-34, and 45-49 are allowed.
4. Claims 4, 8-11, 23, 27-29, 38, and 42-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Daniels et al. (U.S. patent 6,643,416 B1) for changing resolutions to prevent aliasing in an image when the image size is being changed.


Freeman (U.S. patent 4,774,565) for a **linear median filter**.



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**Contact Information**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Bhatnagar whose telephone number is (571) 272-7416, whose supervisor is Amelia Au whose number is (571) 272-7414, group fax is 703-872-9306, and Tech center 2600 customer service office number is 703-306-0377.

  
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Art Unit 2623

April 14, 2005